

Application No: 09/309,453

Filing Date: May 11, 1999

Group Art Unit: 2771

Examiner: T. Pardo

Atty. Docket No: 102396-7

1.(Amended) A digital data processing system with improved access to information stored on a peripheral device, comprising

A. first and second nodes coupled to one another over a first communications pathway,

B. [the second node being coupled to a peripheral device over a second communications pathway,

C.] the first node being coupled to [the] a peripheral device over a third communications pathway,

[D.] C. a file system, executing on the first and second nodes, being capable of responding to access requests generated by the first node, for

(i) [transferring data designated by the request between the first node and the peripheral device via the second node and via the first and second communications pathways,

(ii)]

maintaining administrative information pertaining to storage of the data designated by the request on the peripheral device,

[E.] D. a first bypass, executing on at least the first node, for interceding in response to at least a first selected access request applied thereby to the file system, by transferring data designated by that request between the first node and the peripheral device over the third communications pathway in accord with administrative information maintained by the file system pertaining to storage of that data on the peripheral storage device.

18.(Amended) A digital data processing system with improved file access, comprising

A. first and second nodes coupled to one another over a first communications pathway,

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B. [the second node being coupled to a peripheral device over a second communications pathway,

C.]
the first node being coupled to [the] a peripheral device over a third communications pathway,

[D.] C. an applications program executing on the first node generating requests for access to files stored on the peripheral device, and for applying those requests to a file system,

[E.] D. the file system, executing on the first and second nodes, being capable of responding to access requests generated by the first node, for

(i) [transferring data designated by file access requests between the first node and the peripheral device via the second node and via the first and second communications pathways,

(ii)
maintaining administrative information pertaining to physical mappings for files stored on the peripheral device, and

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AR E. a first bypass, executing on at least the first node and coupled to the file system, for transferring between the first node and the peripheral device over the third communications pathway data designated by at least selected file access requests, the first bypass transferring such data based on administrative information pertaining to physical mappings maintained by the file system, such transfers being in lieu transfer of that data via the second node and via the first and second communications pathways.

27.(Amended) A [scaleable] scalable networked digital data processing system with improved access to information stored on a first peripheral device, comprising

A3 A. a plurality of networked nodes, including at least first and second server nodes, coupled to one another via a first communications pathway,

B. [the second server node being coupled to a first peripheral device over a second communications pathway,

C.] the first server node being coupled to [the] a first peripheral device over a third communications pathway,

[D.] C. each of the first and second server nodes being coupled to zero, one or more client nodes,

[E.] D. a file system, executing on at least the first and second server nodes, being capable of responding to access requests generated by the first server node, for

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(i) transferring data designated by the request between the first server node and the first peripheral device via the second server node and via the first and second communications pathways,

(ii)]

maintaining administrative information pertaining to storage of the data designated by the request on the first peripheral device, and

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E. a first bypass, executing on at least the first server node, for interceding in response to at least a first selected access request applied thereby to the file system, by transferring data designated by that request between the first server node and the first peripheral device over the third communications pathway in accord with administrative information maintained by the file system pertaining to storage of that data on the peripheral storage device.

[In claim 28, at line 1 thereof, please delete "scaleable" and insert - - scalable - - .

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29.(Amended) A method for improved access to a peripheral device in a digital data processing system of the type having

first and second nodes coupled to one another over a first communications pathway,

[the second node being coupled to a peripheral device over a second communications pathway,]

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a file system, executing on the first and second nodes, being capable of responding to access requests generated by the first node, for [(i) transferring data designated by the request between the first node and the peripheral device via the second node and via the first and second communications pathways, (ii)] maintaining administrative information pertaining to storage of the data designated by the request on the peripheral device,

the method comprising:

- A. coupling the first node to the peripheral device over a third communications pathway, and
 - B. bypassing the file system, in part, in responding to at least a first selected access request applied by the first node to the file system, such bypassing including transferring data designated by that request between the first node and the peripheral device over the third communications pathway in accord with administrative information maintained by the file system pertaining to storage of that data on the peripheral storage device.
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AS
[32.] 31 (Amended) A method according to claim 29, wherein the bypassing step comprises transferring the designated data over the third communications pathway to physical storage locations on the peripheral device determined from the administrative information for that data maintained by the second node.

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[33.] 32. (Amended) A method according to claim 31, wherein the bypassing step comprises at least initiating the obtaining of administrative information from the second node by generating and applying to the file system a second access request, the second request being for access to a logical unit to which access is controlled by the second node.

[34.] 33. (Amended) A method according to claim 32, wherein the second request is for access to a logical unit other than a file designated in the first access request.

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[35.] 34 A method according to claim [34] 33, wherein the logical unit is a file that resides on a peripheral device local to the first node.

[36.] 35. (Amended) A method according to claim [35] 34, wherein the request generated by the first bypass is a request to write a file.

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[37.] 36. (Amended) A method according to claim [32] 31, comprising responding to the second access request by obtaining from the second node, and at least temporarily retaining on any of the second node and the peripheral device, a physical mapping for a file designated by the first access request.

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[38.] 37. (Amended) A method according to claim [36] 35, wherein the bypassing step comprises transferring, to the first node, the physical mapping for the file designated by the first access request by generating and applying to the file system a third access request for access, the third request designating the logical unit designated by the second access request.

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¶9.] 38. (Amended) A method for improved access to a peripheral device in a [scaleable]
scalable networked digital data processing system of the type having

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a plurality of networked nodes, including at least first and second server nodes,
coupled to one another via a first communications pathway,

[the second server node being coupled to a first peripheral device over a second
communications pathway,]

each of the first and second server nodes being coupled to zero, one or more
client nodes,

a file system, executing on at least the first and second server nodes, being
capable of responding to access requests generated by the first server node, for
(i) transferring data designated by the request between the first server node and
the first peripheral device [via the second server node and via the first and
second communications pathways], and (ii) maintaining administrative
information pertaining to storage of the data designated by the request on the
first peripheral device,

the method comprising the steps of

- A. coupling the first server node to the first peripheral device over a third communications
pathway,

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- B. bypassing the file system, in part, in responding to at least a first selected access request applied by the first server node to the file system, such bypassing including transferring data designated by that request between the first server node and the peripheral device over the third communications pathway in accord with administrative information maintained by the file system pertaining to storage of that data on the peripheral storage device.

[40.] 39. (Amended) A method according to claim [39] 38, further wherein the networked digital data processing is of the type having

a third server node coupled to at least the second server node via a fourth communications pathway,

a file system, executing on at least the second and third server nodes, being capable of responding to access requests generated by the third server node, for (i) transferring data designated by the request between the third server node and the first peripheral device [via the second server node and via the second and fourth communications pathways], and (ii) maintaining administrative information pertaining to storage of the data designated by the request on the first peripheral device,

the method comprising

- A. coupling the third server node to the first peripheral device over a fifth communications pathway,